

WHAT IS CLAIMED IS:

1. An excitation control device, comprising:

5 voltage detecting means for detecting a voltage of an output terminal of a synchronous machine which is connected to a power transmission system through a transformer;

reactive current detecting means for detecting a reactive current output from the synchronous machine;

10 voltage setting means for setting a reference voltage of the output terminal of the synchronous machine according to the reactive current detected by the reactive current detecting means, a reference voltage of an output side of the transformer and a function of phase compensation used to quicken the attenuation of an electric power fluctuation; and

15 control means for controlling an exciting system of the synchronous machine according to a difference between the reference voltage set by the voltage setting means and the voltage of the output terminal of the synchronous machine detected by the voltage detecting means.

2. An excitation control device according to claim 1, wherein the
20 reference voltage of the output terminal of the synchronous machine is set by the voltage setting means by considering the voltage of the output terminal of the synchronous machine detected by the voltage detecting means.

25 3. An excitation control method, comprising the steps of:

detecting a voltage of an output terminal of a synchronous machine which is connected to a power transmission system through a transformer;

detecting a reactive current output from the synchronous machine;

30 setting a reference voltage of the output terminal of the synchronous

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machine according to the reactive current, a reference voltage of an output side of the transformer and a function of phase compensation used to quicken the attenuation of an electric power fluctuation; and

controlling an exciting system of the synchronous machine according
5 to a difference between the reference voltage of the output terminal
of the synchronous machine and the voltage of the output terminal of
the synchronous machine.

4. An excitation control method according to claim 3, wherein the
10 step of setting the reference voltage of the output terminal of the
synchronous machine includes the step of

setting the reference voltage of the output terminal of the
synchronous machine by considering the voltage of the output terminal
of the synchronous machine.

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